Chapter 2 Alternatives

Introduction

NEPA regulations at 40 CFR 1502.14 say that Chapter 2 is the heart of the environmental impact statement, describing the alternatives. Based on the information and analysis presented in Chapter 3, the regulations say Chapter 2 should compare the environmental impacts of the proposal and the alternatives, sharply defining the issues and providing a clear basis for choice among options.

Chapter 2 describes Alternative B, the Proposed Action, developed in response to the Purpose and Need identified in Chapter 1. It also describes alternatives to the Proposed Action, including a no-action alternative, which is defined as no change from existing plans.

The alternatives were developed by changing some of the standards and guidelines to respond to comments raised during scoping. These changes were used to create three alternatives, C, D and E. No changes were made to the goal or the objectives. The DEIS evaluates the effects of the standards and guidelines, both individually and collectively.

People who review this DEIS may suggest different objectives, standards or guidelines. The objectives, standards and guidelines could be regrouped in other ways to create other alternatives. The FS and BLM will consider comments on the alternatives and individual measures before any decisions are made.

The responsible officials may approve one alternative or a combination of measures from different alternatives. Then, the goal, objectives, and selected standards and guidelines, would be applied to future projects by adding them as management direction to existing plans.

If decisions were made to amend the existing plans by adopting these lynx conservation measures, they would not be irreversible decisions. Such decisions could be amended again or revised, subject to ESA consultation.

Public participation

The public has been involved in this amendment from the time the FS and BLM first began trying to determine the scope of public interest in the project, on September 11, 2001, when a notice was published in the *Federal Register*, Vol. 66, No. 176, 47160-47163. The notice announced the agencies were accepting comments on the lynx proposal.

Originally, the comment period was scheduled to end on October 26, 2001, but it was extended to December 10, 2001. The FS and BLM gave people more time to comment, both in response to several requests and because of the general disruption stemming from the September 11th terrorist attacks.

An official website was created at www.fs.fed.us/r1/planning/lynx.html, providing information about the amendment, including the information used to develop the Proposed Action.

Open-house meetings were held to provide a better understanding of the lynx proposal and to gain an understanding of public issues and concerns. Most newspapers in the amendment area ran stories about the proposed amendment and open-house meetings. Open houses were held in:

- Idaho at Bonners Ferry, Challis, Coeur d'Alene, Coolin, Grangeville, Idaho Falls, Orofino and Salmon;
- Montana at Billings, Bozeman, Dillon, Great Falls, Hamilton, Helena, Kalispell, Libby and Missoula; and
- Wyoming at Cody, Jackson Hole, Riverton and Sheridan.

FS and BLM units mailed out more than 6,000 letters about the proposed amendment and upcoming meetings to their mailing lists of people interested in land management issues. Comments were solicited from individuals and organizations, and from federal, state and local government agencies interested in or affected by the Proposed Action, as well as from FS and BLM employees – see the *Scoping* section in the Project Record.

Tribes with aboriginal territories located inside the amendment area were identified and individual letters written to each of them. The letters asked for their participation and identified local federal contacts.

The governor's office for each state was also contacted about their briefing needs. Discussions were held with the State of Idaho Office of Species Conservation and the Montana Departments of Natural Resources & Conservation and Fish, Wildlife & Parks. The State of Utah considered cooperating agency status, but decided they would participate on the Lynx and Wolverine Steering Committee instead of this effort.

The 1,890 public responses to the scoping notice that were received by December 17, 2001, were evaluated and summarized in a report called *Summary of Public Comments* – see the *Scoping* section of the Project Record. Responses received after

December 17, 2001, but before the release of this DEIS were also considered. A summary of these comments is also in the *Scoping* section of the Project Record.

The summary analyzes the public's responses, describing what people said as completely and directly as possible. The system used to analyze public responses was designed to be objective, reliable and easily tracked. Many responses were signed by more than one person, for a total of responses from 2,743 people – individuals, businesses, organizations and agencies. People provided written comments in letters and e-mail messages, on comment forms and faxes, and at meetings. More than half the people who responded submitted form letters. One petition was received.

In mid-May 2002, an eight-page update was mailed to the more than 2,000 addresses of the people who responded to the scoping notice.

On August 15, 2002, a Notice of Intent to prepare an Environmental Impact Statement was published in the *Federal Register,* Vol. 67, No. 158, pp. 53334-53335. The agencies are preparing an EIS because of the level of interest expressed during scoping.

There were five responses to the Notice of Intent, which also have been considered.

The *Scoping* section of the Project Record includes a communication plan – written to make sure no one was overlooked – as well as copies of the public involvement documents.

Issues & concerns addressed in alternatives

NEPA regulations at 40 CFR 1501.2(c) say that federal agencies shall

> *… study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflict concerning alternative uses of available resources.*

Accordingly, the scoping process was used to identify conflicts associated with the Proposed Action and to identify issues to use as a basis for developing alternatives. Comments that addressed the effects of the Proposed Action were sorted into *primary issues,* discussed below.

Five primary issues were identified. They reflect conflicts between lynx conservation and alternative uses of natural resources. The primary issues were used to develop alternatives to the Proposed Action that meet the Purpose and Need.

Several *management concerns* were also used as a basis for formulating alternatives. Both the primary issues and the management concerns are addressed in the *Issues* section later in Chapter 2.

Alternatives were not developed in detail about some suggestions for management direction or other ideas that were more general in nature. These were categorized as *Management considerations dismissed* or *Other concerns*, and can be found later in Chapter 2. Responses to all comments can be found in the *Issues* section of the Project Record.

While many commenters opposed adding management direction to conserve lynx to the existing plans, an alternative was not developed to reflect that point of view because it's already reflected in the no-action alternative, Alternative A. Further, the responsible officials could decide to not adopt some of the direction proposed in the action alternatives, Alternatives B, C, D and E.

The following describes the primary issues and indicators that can be used to compare how the action alternatives respond to them. More information can be found in the *Issues* section of the Project Record.

Primary issues

1. Over-the-snow recreation
Issue: What are the effects of limiting the growth of designated over-the-snow routes, on opportunities for over-the-snow recreation?

Lynx have evolved a competitive advantage in places with deep, soft snow, where other predators tend to be excluded during mid-winter when prey is most scarce (Ruediger et al. 2000, p.1-2). Snow shoeing, cross-country skiing and snowmobiling compact snow and may make it possible for competing predators to occupy lynx habitat during winter (Ruediger et al. 2000, p.2-8).

Standard HU S1 says there can be no net-increase in designated over-the-snow routes in an LAU, unless the increase consolidates use and improves lynx

habitat. The term "*designated routes*" has a specific meaning and does not refer to all snowmobile routes – see the *Glossary*.

Some people said the standard unfairly restricted special-use permits and agreements, because the public could continue to expand their use into areas that are not designated, but people operating under permits or agreements could not expand their use into the same areas.

Issue indicators

- Ability to expand groomed routes
- Ability to expand designated routes
- Effect on over-the-snow winter recreation opportunities

2. Wildland fire risk

Issue: What are the effects of lynx amendment standards on the risks of wildland fire to communities?

Historically, natural disturbance processes like fire created and maintained a mosaic of forest stages that provided habitat for both snowshoe hare and lynx (Ruediger et al. 2000, p.2-5).

In August 2000, the President directed the Secretaries of Agriculture and the Interior to develop a response to severe wildland fires, to reduce fire impacts on rural communities and to ensure effective firefighting capacity. The result was the National Fire Plan. Congress later directed a 10-Year Comprehensive Strategy be developed to reduce wildland fire risk by improving fire prevention and suppression, reducing hazardous fuels, restoring fire-adapted ecosystems and promoting community assistance (USDA FS 2001).

Objective VEG O3 says fire should be used to restore ecological processes and maintain or improve lynx habitat. However, Standards VEG S1 through VEG S6 could limit fuel treatments.

Some people thought the amendment might preclude fuel treatment, especially in the WUI (wildland urban interface).

Issue indicators

- Limits imposed on fuel treatments that reduce winter snowshoe hare habitat
- Ability to conduct fuel treatment outside winter snowshoe hare habitat
- Percent of fuel treatment program both inside and outside the WUI that may need to be relocated during the next decade due to Standards VEG S5 and VEG S6
- Effect on wildland fire risk

3. Winter snowshoe hare habitat in multistoried forests

Issue: What is the effect on lynx of allowing projects in winter snowshoe hare habitat in multistoried forests?

Winter snowshoe hare habitat can be found in older forests with substantial undergrowth of shrubs and tree branches that snowshoe hares can reach during winter.

The LCAS, considered the best scientific information available at the time it was written, recognized that older forests with substantial undergrowth were important to lynx, but recommended restricting only precommercial thinning.

The Proposed Action was based on the LCAS. Like the LCAS, it contains measures to protect winter snowshoe hare

habitat, including measures restricting precommercial thinning.

Other activities, such as prescribed burning, fuel treatment and timber harvest, can reduce foraging habitat in older, multistoried forests. These same activities also can create multistoried conditions or can be used to prolong winter snowshoe hare habitat.

Some people said the amendment should preclude all activities that reduce winter snowshoe hare habitat. While many other comments suggested protections for lynx beyond what the LCAS recommended, this was the only one with a scientific basis for questioning the adequacy of the LCAS recommendations.

Issue indicators

- Activities allowed in multistoried forests that provide winter snowshoe hare habitat outside wilderness
- Effect on winter snowshoe hare habitat in multistoried forests outside wilderness

4. Precommercial thinning

Issue: What are the effects of limiting precommercial thinning, on restoring tree species and forest structures that are declining?

Dense sapling cover is a major component of winter snowshoe hare habitat – winter hare habitat is important to lynx because the hare is its primary prey (Ruediger et al. 2000, p.1-7). Winter habitat is the most limiting (Ruggerio et al. 2000a). Dense saplings are found:

- In the young regenerating forests that grow up after a major disturbance like regeneration timber harvest or stand-replacing fire; and
- In older forests with substantial undergrowth of shrubs and short trees that snowshoe hares can reach during winter.

In the northern Rockies, western white pine, whitebark pine, ponderosa pine, quaking aspen and western larch are all declining (USDA FS 1998).

These species all require some level of disturbance – historically, fire – to grow into mature trees, or else they get over-topped and out-competed by faster-growing species that are more apt to be killed by fire. See the *Forests* section in Chapter 3 for descriptions of species status.

Lodgepole pine often regenerates densely. In the past, low-intensity fires thinned them out, encouraging some to develop into large, mature trees (Lotan et al. 1985). Forests of large lodgepole pine trees are used by many wildlife species, including goshawk (Shaw 2002).

Standards VEG S5 and VEG S6 defer precommercial thinning in winter snowshoe hare habitat. Thinning would be allowed within 200 feet of administrative sites, dwellings or outbuildings.

Some people said precommercial thinning should continue to be used to restore tree species that are declining or to encourage future large trees.

Issue indicators

- Ability to precommercially thin young regenerating forests to maintain or restore tree species in decline
- How much precommercial thinning could be done overall

- Precommercial thinning deferred by the lynx amendment during the next decade, based on historic average funding of about 34 percent of what's requested
- Effect on tree species in decline

5. FWS Remand decision

Issue: What level of management direction should be applied to activities that the FWS remand notice found were not a threat to lynx populations?

On July 3, 2003, the FWS issued a Notice of Remanded Determination of Status for the contiguous United States distinct population segment of the Canada lynx (USDI FWS, 2003). The notice revisited the five factors used to determine whether lynx should be listed as threatened or endangered, and reassessed the magnitude of threats to lynx. The notice said lynx is not endangered throughout a significant portion of its range, reaffirming the decision to list lynx as threatened.

The notice said that, for several risk factors identified in the LCAS, no evidence exists that they pose threats to lynx populations: "The risks identified in the LCAS are based on effects on either individual lynx, populations, both, or lynx habitat. Therefore, not all of the risks identified in the LCAS threaten lynx populations in the United States" (p. 40096). The notice specifically discussed several of the risk factors addressed in the Proposed Action.

- "Mining and grazing were not specifically addressed because we have no information to indicate they pose threats to lynx." (p. 40083)
- "… lynx show no evidence of being displaced by or avoidance of unpaved forest roads. We find no information demonstrating that forest roads negatively impact lynx (Roe et al. 2001) and, therefore do not consider forest roads to be a threat to lynx." (p. 40097)
- "There continues to be no data on the role of competition between lynx and other species … At this time there is no evidence that, if competition exists between lynx and any of these species, it exerts a population-level impact on lynx; therefore we do not consider competition to be a threat to lynx." (p. 40097)
- "… Because no evidence has been provided that packed snowtrails facilitate competition to a level that negatively affects lynx, we do not consider packed snowtrails to be a threat to lynx at this time." (p. 40098)

The notice raises questions about whether the amendment should apply only to activities that threaten lynx populations.

Issue indicators

- Nature of management direction applied to grazing, minerals, roads and over-the-snow recreation.

Additional management concerns addressed through alternatives

Internal agency comments, as well as some public comments, expressed other concerns about the Proposed Action, largely involving procedural or administrative considerations rather than environmental consequences. Some

people thought the Proposed Action would increase the complexity, cost or rigidity of management without comparable benefits for lynx. These concerns have been addressed by developing different language in alternatives and are summarized below.

Standard VEG S1 says if more than 30 percent of the lynx habitat in an LAU is in an *unsuitable condition*, then vegetation management projects cannot make more unsuitable. *Unsuitable lynx habitat* consists of young regenerating forests where the trees and brush are generally less than ten to 30 years old and have not yet grown tall enough to protrude above the snow in winter.

Natural disturbance processes tend to be larger than an LAU in the Northern Rockies. Some people said that if management actions were supposed to emulate natural processes – especially with prescribed burns – then some scale larger than one LAU should be used to apply the 30 percent standard.

Standard VEG S2 limits changes caused by timber harvest in a 10-year period. Some people said Standard VEG S2 should not single out a specific management practice, when other practices can have the same result.

Standard VEG S3 defers vegetation management projects in places with the potential to develop into denning habitat if an LAU contains less than ten percent denning habitat. *Guideline VEG G2* recommends leaving standing trees and coarse woody debris where more denning habitat is desired. Some people said Standard VEG S3 should be modified to provide for more denning habitat without deferring activities.

Standard VEG S4 limits salvage harvest in some situations. Some people said Standard VEG S4 should not single out a specific management practice, when other practices can have the same result.

Standards VEG S5 and *VEG S6* limit precommercial thinning in winter snowshoe hare habitat. They would restrict precommercial thinning done for research and genetic test sites. Research to find how snowshoe hares respond to various kinds and levels of thinning has been identified as an information need; information from genetic test sites is needed to evaluate which trees grow the best. Some people said that since these activities affect such a small acreage, they should be allowed.

Guideline VEG G1 recommends creating forage where it's lacking. Some people said more guidance was needed about what stand conditions should be targeted to create forage.

Standard HU S1 allows adjusting groomed and designated over-the-snow routes within an individual LAU. Since trail systems frequently cover multiple LAUs, some people said it would be difficult to manage trails inside a single LAU.

Standard HU S2 requires lynx diurnal security habitat to be provided when developing or expanding ski areas. The LCAS recognized this as less of a problem in the Northern Rockies Geographic Area than in some other parts of the lynx range. Some people said an alternative should recognize this.

Guideline HU G6 discourages creating more high-traffic roads and highways, by recommending avoiding upgrades to unpaved roads if they would result in increased traffic speeds and volumes. Some people said this guideline ignored other environmental or safety considerations.

The *Lynx Conservation Agreement*, which is currently in effect, prohibits projects that would adversely affect lynx. Although recommendations in the LCAS are used as a basis for evaluating the effects of proposed projects, strict compliance with the LCAS is not required if the effects are not adverse.

Once the lynx amendment is in place, projects would have to comply with amendment standards even if the result of not complying would not lead to adverse effects. Some people said an alternative should be considered that does not give up this flexibility. A new standard, Standard ALL S2, was added to provide this flexibility.

Range of alternatives

NEPA regulations at 40 CFR 1502.14(a) say an environmental impact statement must

> *…rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons …*

The courts have established that this does not mean every conceivable alternative must be considered, but that the selection and discussion of alternatives must permit a reasoned choice and foster informed public participation and decision-making.

Whether an alternative is *reasonable* is primarily determined by whether it meets the Purpose and Need and whether it represents a distinctly different approach in responding to issues.

The range of alternatives presented in this chapter was determined by evaluating the comments and the Purpose and Need; and considering the level of scientific information available to warrant a different approach, the Listing Decision and ESA requirements. Within these parameters, the alternatives developed display a reasonable range to guide future projects, respond to the issues and meet the Purpose and Need.

When the alternatives were being developed, suggested objectives, standards and guidelines were considered if they addressed the primary issues or management concerns. These comments were screened to see if:

- They met the Purpose and Need, and if so
- Whether they provided approaches different from those already included in other alternatives.

Those that did not meet both tests are discussed later in this chapter as *Management direction considered, but not developed in detail*, where the reasons are explained why they were not developed further. These partially developed alternatives contribute to the reasonable range and reasoned choice, even though they were eliminated from further consideration.

Alternatives developed in detail

Alternative A, no action

Analyzing a no-action alternative is a requirement of NEPA at 40 CFR 1508.14(d), and of BLM and FS planning procedures. In this case, no action means no change, no amendment to existing plans. This analysis considers the effects of the existing plans as written including any previous amendments.

The no-action alternative does not include the conservation measures in the LCAS. While the FS and BLM have been following the Conservation Agreements they signed with the FWS and considering the LCAS when evaluating projects, the LCAS measures have not been incorporated as plan direction. A decision to adopt Alternative A would not adopt the measures of the LCAS, but also would not void the Conservation Agreements or the requirements of ESA.

The comparison of alternatives focuses on the changes in effects that result from adding lynx management direction. The proposed measures are considered individually, as well as collectively. They may be selected individually or not. A decision to not adopt some of the lynx management direction would be a decision to select part of Alternative A.

Alternative B, the Proposed Action

The Proposed Action was developed from conservation measures recommended in the LCAS. Appendix A is a crosswalk between the LCAS, the scoping proposed action and the DEIS Proposed Action, Alternative B.

Alternative B addresses activities on NF and BLM lands that can affect lynx and their habitat. The exact language is in Table 2-1.

Timber and wildland fire management

Timber and wildland fire management both can affect the amount of winter snowshoe hare and denning habitat. Alternative B would add management direction to provide certain habitat conditions – see the *Lynx* section of Chapter 3 for more thorough descriptions and explanations of stand conditions.

Objectives describe desired conditions.

- Objectives VEG O1 and VEG O3 focus on using fire and timber management to emulate historic processes.
- Objective VEG O2 says winter snowshoe hare habitat should be near denning habitat.
- Objectives VEG O3 and VEG O4 encourage using fire and timber

management to develop winter snowshoe hare habitat.

Standards set sideboards for projects. The vegetation standards do not apply to fire suppression or to wildland fire use.

- Standard VEG S1 limits to 30 percent in an LAU, the amount of lynx habitat that can be in an unsuitable condition. *Unsuitable lynx habitat* is young regenerating forests where the trees are generally less than ten to 30 years old and the vegetation has not yet grown tall enough to support snowshoe hares during all seasons. It will grow into winter snowshoe hare habitat over time.

  Standard VEG S1 is meant to ensure lynx habitat is maintained at the scale of a lynx home range. Standard VEG S1 is based on general information about historic conditions (Brittel et al. 1989) and would not apply if a broadscale assessment substantiated different historical levels. The amount of lynx habitat in an unsuitable condition on private lands is considered in this standard.

- Standard VEG S2 limits to 15 percent in ten years the amount of lynx habitat in an LAU that can be made unsuitable because of timber harvest. Timber harvest is not an exact ecological substitute for natural disturbance processes (Ruediger et al. 2000 p. 2-2 to 2-3). Limiting the amount of timber harvest would let natural disturbance processes – fire and insect and diseases – play their historic roles producing unsuitable habitat, and later, foraging conditions.

- Standards VEG S3 and VEG S4 direct maintaining denning habitat and limiting salvage harvest that may remove potential denning sites.

- Standards VEG S5 and VEG S6 limit precommercial thinning so that existing winter snowshoe hare habitat would be maintained. Thinning would be allowed for safety and protecting property.

Guidelines identify ways to meet the objectives.

- Guideline VEG G1 encourages managers to create winter snowshoe hare habitat where it's lacking.

- Guidelines VEG G2 and VEG G3 say providing denning habitat close to foraging habitat should be considered when designing timber and fire projects.

- Guideline VEG G4 says the result of prescribed fire or wildland fire use should not be new trails that lead to more snow compaction or permanent firebreaks built on ridges and saddles.

- Guideline VEG G5 says habitat for red squirrels should be provided.

Livestock grazing
Livestock grazing may reduce winter snowshoe hare habitat especially where young regenerating forests are re-growing in stands of aspen and riparian areas. Livestock grazing also may reduce shrub-steppe habitat, which provides cover and prey for lynx when they're traveling.

- Objective GRAZ O1 says grazing should be managed in a way that maintains or improves lynx habitat.
- Standard GRAZ S1 says to make sure shrubs and trees can re-grow.
- Standard GRAZ S2 says to make sure aspen can survive.
- Standards GRAZ S3 and GRAZ S4 say that historic conditions should be emulated in riparian areas and shrub-steppe habitats.

Human uses
Recreational use, forest backcountry roads and trails and other human developments may reduce lynx habitat connectivity, or by compacting snow, provide a way for competing predators to move into lynx habitat.

- Objective HU O1 and Guideline HU G4 say to discourage new snow-compacting activities in lynx habitat.
- Objectives HU O2, HU O4 and HU O5, and Guidelines HU G1, HU G2, HU G3 and HU G5, say to provide lynx habitat in association with human uses and developments.
- Objectives HU O2, HO O3, HU O4, HU O5 and HU O6, and Guidelines HU G2, HU G3, HU G6, HU G7, HU G8 and HU G9 say to maintain lynx habitat connectivity.
- Standard HU S1 would stop the agencies from encouraging snow-compacting recreation in new areas, but would not limit existing use.
- Standard HU S3 limits winter access for special uses other than recreation and for mining and drilling.
- Standard HU S2 says ski area expansions shall provide diurnal security habitat.

Highways and private land developments
Highways and private land developments may affect lynx connectivity or mortality. The following direction applies only to the FS and BLM, but encourages cooperation with others.

- Objectives ALL O1 and LINK O1 say to provide lynx habitat connectivity.
- Objective LINK O1 says to work with other landowners.
- Standard ALL S1 says to make sure developments and vegetative management projects provide connectivity.

- Standard LINK S1 says to identify highway crossings.
- Standard LINK S2 says to manage shrub-steppe habitats in ways that provide connectivity.
- Guideline ALL G1 says highway-crossing structures should be used to provide connectivity.
- Guideline LINK G1 says lynx habitat should be retained in public ownership.

Alternative C

Alternative C was designed to respond to issues of over-the-snow recreation management and foraging habitat in multistoried forests, while providing a comparable level of protection to lynx as Alternative B, the Proposed Action. The changes from Alternative B are:

- Standard VEG S1 was changed to increase the scale at which it's applied. Alternative C would apply the 30 percent standard either to an LAU or to a fixed combination of adjacent LAUs, so disturbance processes like fire could be factored in. Under Alternative C, the standard would not limit the use of prescribed fire.
- Standard VEG S2 was changed to a guideline – while the agencies must comply with a standard, they may deviate from a guideline. Analysis indicated that timber harvest has caused very few LAUs to exceed 15 percent unsuitable (Hillis et al. 2003). Some people thought timber harvest should not be singled out since unsuitable conditions can be created by prescribed fire as well.
- Standard VEG S4 was changed to allow salvage logging in disturbed areas smaller than five acres, when such areas are within 200 feet of dwellings and outbuildings. This would let commercial operators clear dead or dying trees to treat fuels.
- Standards VEG S5 and VEG S6 were changed to apply to all vegetation management, not just precommercial thinning, and to allow research projects and genetic tests. The LCAS did not say to limit all activities that could reduce winter snowshoe hare habitat in multistoried stands.
- Guideline VEG G1 was changed to give priority to managing vegetation in mid-aged or mature forests that have little understory or few dead trees. Analysis indicates an abundance of this kind of forest in the amendment area, and it's of relatively low value to lynx.
- Standard HU S1 was changed to increase the scale at which it would be applied to consolidate use and improve lynx habitat. The no-net-increase standard for groomed or designated routes

would be applied either to an LAU or to a fixed combination of immediately adjacent LAUs.

Standard HU S1 also was changed to let groomed or designated trails expand into areas or routes where snow was already compacted, as identified in the baseline of 1998 through 2000. This would allow increased use where snow is already compacted.

- Standard HU S2 was changed to a guideline. Not all ski areas need to provide diurnal security habitat; it can be provided next to ski areas, not just inside them. Diurnal security habitat does need to be taken into consideration when ski areas are developing or expanding.
- Guideline HU G6 changed its emphasis from *avoiding* to *mitigating* upgrading roads, where upgrades would lead to substantial increases in traffic volumes or speeds. Some upgrades may be proposed to reduce dust or to ensure safety and reduce maintenance.

Alternative D

Alternative D was designed to address the issues of managing over-the-snow recreation and multistoried forests, similar to Alternative C. Alternative D also allows some precommercial thinning in winter snowshoe hare habitat, but still contributes to lynx conservation. The changes from Alternative B are:

- Standard ALL S2 was added which would allow any project to go forward if it deviates from a lynx standard with a "not likely to adversely affect" determination, subject to ESA requirements and to review by the FS Regional Forester or BLM State Director.
- Standard VEG S1 was changed to further increase the scale at which it's applied. Alternative D would apply the 30 percent standard at the scale of a sub-basin or an isolated mountain range.
- Standard VEG S2 was dropped.
- Standard VEG S3, deferring vegetation management where less than ten percent denning habitat was available, was changed to allow projects if they leave enough standing trees and large down woody material for den sites.
- Standard VEG S4 was changed to a less-restrictive guideline that says salvage logging should be limited after a disturbance kills trees in areas of five acres or less. Leaving small dead patches should be considered if less than ten percent denning habitat is available in an LAU.
- Standards VEG S5 and VEG S6 were changed to apply to all

vegetation management, not just precommercial thinning. Thinning would be allowed in the same cases as Alternative C, plus thinning could be done to favor certain tree species.

- In young regenerating forests, *daylight thinning* could take place around western larch, ponderosa pine and planted western white pine if 80 percent of the cover was retained – this would retain some of the value as snowshoe hare cover and forage, and give these disturbance-adapted species a better chance to grow into large mature trees. VEG S5 would let aspen restoration projects take place in young regenerating forests.

  Both standards would allow whitebark pine restoration projects, including thinning and prescribed burning. Both would allow thinning anywhere there's already an abundance of snowshoe hare forage, and projects that would encourage lodgepole pine to develop old-growth characteristics.

  Standard VEG S6 would permit some short-term reduction of foraging habitat in older stands, allowing logging or prescribed fire to create openings that would improve or maintain foraging habitat in the long term.

- Guideline VEG G1 changed the same as under Alternative C.
- Guideline VEG G2 was dropped – it's included as a mitigation measure under Standard VEG S3.
- Standards HU S1 and HU S2 and Guideline HU G6 were changed the same as under Alternative C.

Alternative E, the Preferred Alternative

Alternative E addresses the issue of wildland fire risk while contributing to lynx conservation. It also responds to statements made in FWS's Remand Notice that the effects of grazing, minerals, forest roads and over-the-snow activities do not affect lynx populations. Appendix N identifies the management direction applicable to Alternative E, the Preferred Alternative.

The changes from Alternative B are:

- As with Alternative D, Standard ALL S2 was added that would allow a project to go forward if it deviates from a lynx standard with a "not likely to adversely affect" determination, subject to ESA requirements. Under Alternative E, the standard would allow a project to go forward if it deviates from a lynx standard and results in short-term adverse effects, but has long term beneficial effects on lynx. No higher level of review would be required.
- Standard VEG S1 was changed to increase the scale at which it's applied. As with Alternative C, Alternative E would apply the 30

percent standard either to an LAU or a fixed combination of adjacent LAUs. Under Alternative E, the standard would allow all fuel treatments.

- Standard VEG S2 was dropped, the same as under Alternative D.
- Standard VEG S3 was changed, as with Alternative D, to allow projects where less than ten percent denning habitat is available if enough standing trees or large down woody material is left for den sites. Under Alternative E, the standard would allow all fuel treatments.
- Standard VEG S4 was changed the same as under Alternative D.
- As with Alternative B, Standard VEG S5 would apply only to precommercial thinning. Under Alternative E, the standard would allow all fuel treatments that use precommercial thinning.
- Standard VEG S6 was dropped, and the management direction included in Guideline VEG G8.
- Guideline VEG G1 was changed the same as under Alternative C.
- Guideline VEG G2 was dropped the same as under Alternative D – it's included as a mitigation measure under Standard VEG S3.
- Standards GRAZ S1, S2, S3 and S4 were dropped and the management direction included in Guidelines GRAZ G1, G2, G3, and G4. Standard LINK S2 was dropped, and the management direction included in Guideline LINK G2.
- Standard HU S1 was dropped, and the management direction included in Guideline HU G11.
- Standards HU S2 and Guideline HU G6 were changed the same as with Alternative C.
- Standard HU S3 was dropped, and the management direction included in Guideline HU G12

Features common to all alternatives

Table 2-1 on the following page shows the differences between the action alternatives, Alternatives B, C, D and E.

The goals, objectives, standards and guidelines would apply only to NF and BLM lands, and would be incorporated into the existing plans. If a conflict exists between this management direction and an existing plan, the more restrictive direction would apply.

Table 2-1. Crosswalk between Alternative B, the Proposed Action, and the other action alternatives C, D & E

Differences between the alternatives have been *italicized*.

If a conflict exists between this management direction and an existing plan, the more restrictive direction applies.

Alternative B	Alternative C	Alternative D	Alternative E
ALL PROGRAMS & ACTIVITIES – applies to lynx habitat[19] in LAUs[17] & linkage areas[18]18, subject to valid existing rights			
Goal[12] Conserve the Canada lynx.	Same	Same	Same
Objective[25] ALL O1 Maintain[22] or restore[33] lynx habitat[19] connectivity[14] in and between LAUs[17], and in linkage areas[18].	Same	Same	Same
Standard[36] ALL S1 New or expanded permanent developments[28] and vegetation management projects[41] must maintain[22] habitat connectivity[14].	Same	Same	Same
Standard ALL S2 None	None	A project proposal that deviates from one or more lynx standards may proceed without amending the plan, subject to ESA requirements, if a written determination is made that the project is not likely to adversely affect lynx. The regional forester or BLM state director must approve any project proposed under this measure before the decision is made.	A project proposal that deviates from one or more lynx standards may proceed without amending the plan, subject to ESA requirements, *either:* *1.* If a written determination is made that the project is not likely to adversely affect lynx; or *2. If it may result in short-term adverse effects on lynx but if long-term benefits to lynx and its habitat would result.*
Guideline[13] ALL G1 Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways[15] or forest highways[10] across federal land. Methods could include fencing, underpasses or overpasses.	Same	Same	Same

Alternative B	Alternative C	Alternative D	Alternative E
SPECIFIC PROGRAMS & ACTIVITIES – applies only to lynx habitat [19] in LAUs[17], subject to valid existing rights LAU boundaries			
Standard[36] LAU S1 LAU[17] boundaries will not be adjusted except through agreement with the FWS, based on new information about lynx habitat[19].	Same	Same	Same
Vegetative management activities & practices			
Objective[25] VEG O1 Manage vegetation to be more similar to historic succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.	Same	Same	Same
Objective VEG O2 Maintain or improve lynx habitat[19], emphasizing high-quality winter snowshoe hare habitat[42] near denning habitat[4].	Same	Same	Same
Objective VEG O3 Conduct fire use[9] activities to restore[33] ecological processes and maintain or improve lynx habitat.	Same	Same	Same
Objective VEG O4 Design regeneration harvest, reforestation and thinning to develop characteristics suitable for winter snowshoe hare habitat.	Same	Same	Same

Alternative B	Alternative C	Alternative D	Alternative E
Standard[36] VEG S1 Unless a broad scale assessment[2] has been completed that substantiates different historic levels of unsuitable habitat[20], limit disturbance in each LAU[17] as follows: If more than 30 percent of the lynx habitat[19] in an LAU is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects[41].	Standard VEG S1 Unless a broad scale assessment has been completed that substantiates different historic levels of unsuitable habitat, limit disturbance in each LAU *or in a combination of immediately adjacent LAUs* as follows: If more than 30 percent of the lynx habitat in an LAU *or a combination of immediately adjacent LAUs* is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects. This standard does not apply to prescribed fire[29]. *Use the same analysis boundaries for all vegetation management projects subject to this standard.*	Standard VEG S1 Unless a broad scale assessment has been completed that substantiates different historic levels of unsuitable habitat, limit disturbance in *each sub-basin or isolated mountain range*[16] as follows: If more than 30 percent of the lynx habitat *in a sub-basin or isolated mountain range* is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects. Use the same analysis boundaries for all vegetation management projects subject to this standard.	Standard VEG S1 Unless a broad scale assessment has been completed that substantiates different historic levels of unsuitable habitat, limit disturbance in each LAU *or in a combination of immediately adjacent LAUs* as follows: If more than 30 percent of the lynx habitat in an LAU *or a combination of immediately adjacent LAUs* is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects. *This standard does not apply to fuel treatment[11] projects identified through processes such as that described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan.* Use the same analysis boundaries for all vegetation management projects subject to this standard.
Standard VEG S2 Timber management projects[39] shall not change more than 15 percent of the lynx habitat on NFS or BLM lands in an LAU to an unsuitable condition in a ten-year period.	*None* *See Guideline VEG G6*	*None*	None
Standard VEG S3 Maintain[22] at least ten percent of the lynx habitat in an LAU as denning habitat[4] in patches generally larger than five acres.	Same as Alt B	Standard VEG S3 Maintain at least ten percent of the lynx habitat in an LAU as denning habitat in patches generally larger than five acres.	Standard VEG S3 Maintain at least ten percent of the lynx habitat in an LAU as denning habitat in patches generally larger than five acres.

Alternative B	Alternative C	Alternative D	Alternative E
Where less than ten percent denning habitat is present in an LAU, defer vegetation management projects in stands that have the highest potential to develop denning habitat.		Where less than ten percent denning habitat is present in an LAU, *either:* *1.* Defer vegetation management projects in stands that have the highest potential to develop denning habitat; *or* *2. Move towards ten percent denning habitat by leaving enough standing trees and coarse woody debris to be similar to what would be there naturally.*	Where less than ten percent denning habitat is present in an LAU, either: 1. Defer vegetation management projects in stands that have the highest potential to develop denning habitat; or 2. Move towards ten percent denning habitat by leaving enough standing trees and coarse woody debris to be similar to what would be there naturally. *This standard does not apply to fuel treatment projects identified through processes such as that described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan.*
Standard VEG S4 After a disturbance kills trees in areas five acres or smaller that could contribute to lynx denning habitat, salvage harvest[34] may occur only in: 1. Developed recreation[7] sites, administrative sites, or authorized special use structures or improvements; or 2. Designated road or trail corridors where public safety or access has been or may be compromised; or 3. LAUs where denning habitat has been mapped and field-validated, provided at least ten percent is retained and well distributed.	Standard VEG S4 After a disturbance kills trees in areas five acres or smaller that could contribute to lynx denning habitat, salvage harvest may occur only in: 1. Developed recreation sites, administrative sites, or authorized special use structures or improvements; or *2.* Designated road or trail corridors where public safety or access has been or may be compromised; or 3. LAUs where denning habitat has been mapped and field-validated, provided at least ten percent is retained and well distributed; or 4. *Within 200 feet of dwellings or outbuildings.*	*None* *See Guideline VEG G7*	None See Guideline VEG G7

Alternative B

Standard VEG S5

Precommercial thinning[30] projects that reduce winter snowshoe hare habitat[42] during the stand initiation structural stage[37] may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings.

NOTE: Some thinning projects, such as white pine pruning or Christmas tree harvest, may occur if winter snowshoe hare habitat is not reduced.

Alternative C

Standard VEG S5

Vegetation management projects that reduce winter snowshoe hare habitat during the stand initiation structural stage may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. *For research studies[32] or genetic tree tests evaluating genetically improved reforestation stock.*

NOTE: Some vegetation management projects, such as white pine pruning or Christmas tree harvest, may occur if winter snowshoe hare habitat is not reduced.

Alternative D

Standard VEG S5

Vegetation management projects that reduce winter snowshoe hare habitat during the stand initiation structural stage may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
3. *For daylight thinning[3] of planted rust-resistant white pine where 80 percent of the winter snowshoe hare habitat is retained; or*
4. *To restore[33] whitebark pine; or*
5. *For daylight thinning to release larch or ponderosa pine where 80 percent of the winter snowshoe hare habitat is retained; or*
6. *To develop future old growth[27] characteristics in lodgepole; or*
7. *When a broad scale assessment[2] determines that the amount winter snowshoe hare habitat in the stand initiation stage exceeds what would be expected under the normal range of historic conditions; or*
8. *For conifer removal in aspen or daylight thinning around individual aspen trees.*

NOTE: Appendix G includes examples of 3, 5, 6 and 7.

Alternative E

Standard VEG S5

Precommercial thinning[30] projects that reduce winter snowshoe hare habitat during the stand initiation structural stage may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
3. *For fuel treatment projects identified through processes such as that described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan.*

Alternative B

Standard VEG S6

Precommercial thinning projects that reduce winter snowshoe hare habitat during the understory-reinitiation[40] or old-multistory structural stages[26] may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings.

Alternative C

Standard VEG S6

Vegetation management projects[41] that reduce winter snowshoe hare habitat during the understory-reinitiation or old-multistory structural stages may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies[32].

Alternative D

Standard VEG S6

Vegetation management projects that reduce winter snowshoe hare habitat during the understory-reinitiation or old-multistory structural stages may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies; or
3. *To maintain planted rust-resistant white pine where 80 percent of the winter snowshoe hare habitat is retained; or*
4. *To restore whitebark pine; or*
5. *To release larch or ponderosa pine where 80 percent of the winter snowshoe hare habitat is retained; or*
6. *To develop future old growth characteristics in lodgepole; or*
7. *When a broad scale assessment[2] determines that the amount of winter snowshoe hare habitat in multistory structural stages exceeds what would be expected under the normal range of historic conditions.*
8. *When improving or maintaining winter snowshoe hare habitat in the long term.*

NOTE: Appendix G includes examples of 3, 5 and 6.

Alternative E

None

See Guideline VEG G8

Alternative B	Alternative C	Alternative D	Alternative E
Guideline[13] VEG G1 Vegetation management projects[41] should be planned to recruit a high density of conifers, hardwoods and shrubs where such habitat is scarce or not available. Winter snowshoe hare habitat [42] should be near denning habitat[4]. Vegetation management projects should be planned to extend the production of winter snowshoe hare habitat when forage quality and quantity is declining.	Guideline VEG G1 Vegetation management projects should be planned to recruit a high density of conifers, hardwoods and shrubs where such habitat is scarce or not available *Priority should be given to stem-exclusion, closed-canopy structural stage[38].* Winter snowshoe hare habitat should be near denning habitat. Vegetation management projects should be planned to extend the production of winter snowshoe hare habitat when forage quality and quantity is declining.	Same as Alt C	Same as Alt C
Guideline VEG G2 Where more denning habitat is desired, leave standing trees and coarse woody debris in amounts similar to what would be there naturally. Denning habitat should be near winter snowshoe hare habitat.	Same	*None* *See Standard VEG S3*	None See Standard VEG S3
Guideline VEG G3 Vegetation management projects designed to retain or restore[33] denning habitat should be located where there is a low probability of stand-replacing fire.	Same	Same	Same
Guideline VEG G4 Fire use[9] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	Same	Same	Same

Alternative B	Alternative C	Alternative D	Alternative E
Guideline VEG G5 Habitat for alternate prey species, primarily red squirrel[31], should be provided in each LAU.	Same	Same	Same
None See Standard VEG S2	*Guideline VEG G6* *Timber management projects[39] should not change more than 15 percent of the lynx habitat in an LAU into an unsuitable condition during a ten-year period.*	*None*	None
None See Standard VEG S4	None See Standard VEG S4	*Guideline VEG G7* *After a disturbance that kills trees in areas five acres or smaller which could contribute to lynx denning habitat, salvage harvest[34] should not occur unless at least ten percent denning habitat in an LAU is retained and well distributed.*	Same as Alt D
None See Standard VEG S6	None See Standard VEG S6	None See Standard VEG S6	Guideline VEG G8 *Vegetation management projects[41] should provide habitat conditions through time that maintain[22] winter snowshoe hare habitat[42] during the understory reinitiation[40] or old-multistory structural stages. Vegetation management projects should be used to improve lynx habitat where dense understories are lacking.*

Alternative B	Alternative C	Alternative D	Alternative E
Livestock grazing activities & practices			
Objective[25] GRAZ O1 Manage livestock grazing to be compatible with improving or maintaining[22] lynx habitat[19].	Same	Same	Same
Standard[36] GRAZ S1 In fire- and harvest-created openings, manage livestock grazing to make sure impacts do not prevent shrubs and trees from regenerating.	Same	Same	*None* *See Guideline GRAZ G1*
Standard GRAZ S2 In aspen stands, manage livestock grazing to contribute to their long-term health and sustainability.	Same	Same	*None* *See Guideline GRAZ G2*
Standard GRAZ S3 In riparian areas and willow carrs, manage livestock grazing to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[24], similar to conditions that would have occurred under historic disturbance regimes.	Same	Same	*None* *See Guideline GRAZ G3*
Standard GRAZ S4 In shrub-steppe habitats[35], manage livestock grazing in the elevation ranges of forested lynx habitat[19] in LAUs[17], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	Same	Same	*None* *See Guideline GRAZ G4*

Alternative B	Alternative C	Alternative D	Alternative E
None See Standard GRAZ S1	Same	Same	Guideline[13] GRAZ G1 *In fire- and harvest-created openings, livestock grazing should be managed so that impacts do not prevent shrubs and trees from regenerating.*
None See Standard GRAZ S2	Same	Same	Guideline GRAZ G2 *In aspen stands, livestock grazing should be managed to contribute to their long-term health and sustainability.*
None See Standard GRAZ S3	Same	Same	Guideline GRAZ G3 *In riparian areas and willow carrs, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[24], similar to conditions that would have occurred under historic disturbance regimes.*
None See Standard GRAZ S4	Same	Same	Guideline GRAZ G4 *In shrub-steppe habitats[35], livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.*

Alternative B	Alternative C	Alternative D	Alternative E
Human uses management activities & practices			
Objective[25] HU O1 Maintain[22] the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat[19].	Same	Same	Same
Objective HU O2 Manage recreational activities to maintain lynx habitat and connectivity.	Same	Same	Same
Objective HU O3 Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.	Same	Same	Same
Objective HU O4 Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation[7] sites or ski areas.	Same	Same	Same
Objective HU O5 Manage human activities – such as exploring and developing minerals and oil and gas, placing utility corridors and permitting special uses – to reduce impacts on lynx and lynx habitat.	Same	Same	Same
Objective HU O6 Reduce adverse highway[15] effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity[14], and to reduce the potential of lynx mortality.	Same	Same	Same

Alternative B	Alternative C	Alternative D	Alternative E
Standard[36] HU S1 Allow no net increase in designated over-the-snow routes[5] or play areas by LAU[17], unless designation serves to consolidate use and improve lynx habitat[19]. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or where regulated by HU S3.	Standard HU S1 Allow no net increase in designated over-the-snow routes or play areas *outside baseline areas of consistent snow compaction*[1] by LAU *or in a combination of immediately adjacent LAUs*, unless designation serves to consolidate use and improve lynx habitat. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or to access regulated by HU S3. *Use the same analysis boundaries for all actions subject to this standard.*	Same as Alt C	*None* *See Guideline HU G11*
Standard HU S2 When developing or expanding ski areas, locate trails, access roads and lift termini to maintain[22] and provide lynx diurnal security habitat[8] if it's been identified as a need.	*None* *See Guideline HU G10*	None See Guideline HU G10	None See Guideline HU G10
Standard HU S3 Winter access for non-recreation special uses and mineral and energy exploration and development, shall be limited to designated routes[6] or designated over-the-snow routes[5].	Same	Same	*See Guideline HU G12*
Guideline[13] HU G1 When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris, so winter snowshoe hare habitat[42] is maintained.	Same	Same	Same

Alternative B	Alternative C	Alternative D	Alternative E
Guideline HU G2 When developing or expanding ski areas, nocturnal foraging should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	Same	Same	Same
Guideline HU G3 Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat.	Same	Same	Same
Guideline HU G4 For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.	Same	Same	Same
Guideline HU G5 For mineral and energy development sites and facilities that are closed, a reclamation plan that restores[33] lynx habitat should be developed.	Same	Same	Same
Guideline HU G6 Upgrading unpaved roads to maintenance levels[23] 4 and 5 should be avoided in lynx habitat, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	Guideline HU G6 *Methods to avoid or reduce effects on lynx should be used in lynx habitat when* upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	Same as Alt C	Same as Alt C

Alternative B	Alternative C	Alternative D	Alternative E
Guideline HU G7 New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity[14]. New permanent roads and trails should be situated away from forested stringers.	Same	Same	Same
Guideline HU G8 Cutting brush along low-speed[21], low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.	Same	Same	Same
Guideline HU G9 On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.	Same	Same	Same
None See Standard HU S2	*Guideline HU G10* *When developing or expanding ski areas and trails, access roads and lift termini should be located to maintain and provide lynx diurnal security[8] habitat.*	Same as Alt C	Same as Alt C

Alternative B	Alternative C	Alternative D	Alternative E
None See Standard HU S1	Same	Same	Guideline HU G11 *Designated over-the-snow routes[5] or play areas should not expand outside baseline areas of consistent snow compaction[1] by LAU or in a combination of immediately adjacent LAUs, unless designation serves to consolidate use and improve lynx habitat.* *This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or where regulated by HU G12.* *Use the same analysis boundaries for all actions subject to this guideline.*
None See Standard HU S3	Same	Same	Guideline HU G12 *Winter access for non-recreation special uses and mineral and energy exploration and development, should be limited to designated routes[6] or designated over-the-snow routes[5]*

Alternative B	Alternative C	Alternative D	Alternative E
LINKAGE AREAS – applies to linkage areas[18], subject to valid existing rights			
Objective[25] LINK O1 In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.	Same	Same	Same
Standard[36] LINK S1 When highway[15] or forest highway[10] construction or reconstruction is proposed in linkage areas[18], identify potential highway crossings.	Same	Same	Same
Standard LINK S2 Manage livestock grazing in shrub-steppe habitats[35] to contribute to maintaining[22] or achieving a preponderance of mid- or late-seral stages[24], similar to conditions that would have occurred under historic disturbance regimes.	Same	Same	*None* *See Guideline LINK G2*
Guideline[13] LINK G1 NFS and BLM lands should be retained in public ownership.	Same	Same	Same
None See Standard LINK S2	Same	Same	Guideline LINK G2 *Livestock grazing in shrub-steppe habitats should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[24], similar to conditions that would have occurred under historic disturbance regimes.*

Alternative B	Alternative C	Alternative D	Alternative E
Monitoring			
Map the location and amount of snow-compacting use that coincided with lynx habitat[19] in LAUs[17] during the 1998-2000 seasons for designated over-the-snow[5] and groomed routes and areas, and areas of consistent snow compaction[1]. Such activities include snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc.	Same as Alt B	Same as Alt B	Same as Alt B
None	None	*Annually monitor the acres of vegetation management projects[41] that occurred in lynx habitat and in winter snowshoe hare habitat[42] during the previous fiscal year.*	Same as Alt D
None	None	*Document and evaluate the conditions under which Standard All S2 is applied.*	Same as Alt D

Glossary

[1] *Areas of consistent snow compaction* – An area of consistent snow compaction is an area of land or water that during winter is generally covered with snow and gets enough human use that individual tracks are indistinguishable. In such places, compacted snow is evident most of the time, except immediately after (within 48 hours) snowfall. These can be areas or linear routes, and are generally found in near snowmobile or cross-country ski routes, in adjacent openings, parks and meadows, near ski huts or plowed roads, or in winter parking areas. Areas of consistent snow compaction will be determined based on the area or miles used in 1998, 1999 or 2000.

[2] *Broad scale assessment* – A broad scale assessment is a synthesis of current scientific knowledge, including a description of uncertainties and assumptions, to provide an understanding of past and present conditions and future trends, and a characterization of the ecological, social and economic components of an area. (LCAS)

[3] *Daylight thinning* – Daylight thinning is a form of precommercial thinning that removes the trees and brush inside a given radius around a tree.

[4] *Denning habitat (lynx)* – Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning

habitat must be within daily travel distance of winter snowshoe hare habitat – the typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth[24] forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.

[5] *Designated over-the-snow routes* – Designated over-the-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on-the-ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps) or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The determination of baseline snow compaction will be based on the miles of designated over-the-snow routes authorized, promoted or encouraged in 1998, 1999 or 2000.

[6] *Designated route* – A designated route is a road or trail that has been identified as open for specified travel use.

[7] *Developed recreation* – Developed recreation requires facilities that result in concentrated use. For example, skiing requires lifts, parking lots, buildings and roads; campgrounds require roads, picnic tables and toilet facilities.

[8] *Diurnal security habitat (lynx)* – Diurnal security habitat amounts to places in lynx habitat that provide secure winter daytime bedding sites for lynx in highly disturbed landscapes like ski areas. Security habitat gives lynx the ability to retreat from human disturbance during the day, so they can emerge at dusk to hunt when most human activity stops. Forest structures that make human access difficult generally discourage human activity in security habitats. Security habitats are most effective if big enough to provide visual and acoustic insulation and to let lynx easily move away from any intrusion. They must be close to winter snowshoe hare habitat. (LCAS)

[9] *Fire use* – Fire use is the combination of wildland fire use and using prescribed fire to meet resource objectives. (NIFC) Wildland fire use is managing naturally ignited wildland fires to accomplish resource management objectives in areas that have a fire management plan. This term replaces prescribed natural fire. (Wildland and Prescribed Fire Management Policy, August 1998)

[10] *Forest highway* – A forest highway is a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel (USC: Title 23, Section 101(a)), designated by an agreement with the FS, state transportation agency and Federal Highway Administration.

[11] *Fuel treatment* – A fuel treatment is a management action that reduces the threat of ignition and fire intensity or rate of spread, or is used to restore fire-adapted ecosystems.

[12] *Goal* – A goal is a broad description of what an agency is trying to achieve, found in a land management plan. (LCAS)

[13] *Guideline* – A guideline is a particular management action that should be used to meet an objective found in a land management plan. The rationale for deviations may be documented, but amending the plan is not required. (LCAS modified)

[14] *Habitat connectivity (lynx)* – Habitat connectivity consists of an adequate amount of vegetative cover arranged in a way that allows lynx to move around. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian areas may provide travel cover across open valley floors. (LCAS)

[15] *Highway* – The word highway includes all roads that are part of the National Highway System. (23 CFR 470.107(b))

[16] *Isolated mountain range* – Isolated mountain ranges are small mountains cut off from other mountains and surrounded by flatlands. On the east side of the Rockies, they are used for analysis instead of sub-basins. Examples are the Little Belts in Montana and the Bighorns in Wyoming.

[17] *LAU (Lynx Analysis Unit)* – An LAU is an area of at least the size used by an individual lynx, from about 25 to 50 mi2 (LCAS). An LAU is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.

[18] *Linkage area* – A linkage area provides connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas, where basins, valleys or agricultural lands separate blocks of lynx habitat, or where lynx habitat naturally narrows between blocks. (LCAS updated definition approved by the Steering Committee 10/23/01)

[19] *Lynx habitat* – Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the northern Rockies, lynx habitat is generally occurs between 3,500 and 8,000 feet of elevation, and primarily consists of lodgepole pine, subalpine fir and Engelmann spruce. It may consist of cedar-hemlock in extreme northern Idaho, northeastern Washington and northwestern Montana, or of Douglas fir on moist sites at higher elevations in central Idaho. It may also consist of cool, moist Douglas fir, grand fir, western larch and aspen when interspersed in subalpine forests. Dry forests do not provide lynx habitat. (LCAS)

[20] *Lynx habitat in an unsuitable condition* –Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than ten to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand replacing fire or certain vegetation management projects can create unsuitable conditions. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure. (LCAS)

[21] *Low-speed, low-traffic-volume road* – Low speed is less than 20 miles per hour; low volume is a seasonal average daily traffic load of less than 100 vehicles per day.

[22] *Maintain* – In the context of this amendment, to maintain means to provide enough lynx habitat to conserve lynx. It does not mean to keep the status quo.

[23] *Maintenance level* – Maintenance levels define the level of service provided by and maintenance required for a road. (FSH 7709.58, Sec 12.3) Maintenance level 4 is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. Some may be single lane; some may be paved or have dust

abated. Maintenance level 5 is assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-lane and paved, but some may be aggregate surfaced with the dust abated.

[24] *Mid-seral or later* – Mid-seral is the successional stage in a plant community that's the midpoint as it moves from bare ground to climax. For riparian areas, it means willows or other shrubs have become established. For shrub-steppe areas, it means shrubs associated with climax are present and increasing in density.

[25] *Objective* – An objective is a statement in a land management plan describing desired resource conditions and intended to promote achieving programmatic goals. (LCAS)

[26] *Old multistory structural stage* – Many age classes and vegetation layers mark the old forest, multistoried stage. It usually contains large old trees. Decaying fallen trees may be present that leave a discontinuous overstory canopy. On cold or moist sites without frequent fires or other disturbance, multi-layer stands with large trees in the uppermost layer develop. (Oliver and Larson, 1996)

[27] *Old growth* – Old growth forests generally contain trees that are large for their species and site, and are sometimes decadent with broken tops. Old growth often contains a variety of tree sizes, large snags and logs, and a developed and often patchy understory.

[28] *Permanent development* – A permanent development is any development that results in a loss of lynx habitat for at least 15 years. Ski trails, parking lots, new permanent roads, structures, campgrounds and many special use developments would be considered permanent developments.

[29] *Prescribed fire* – A prescribed fire is any fire ignited as a management action to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements met, before ignition. The term replaces management ignited prescribed fire. (NWCG)

[30] *Precommercial thinning* – Precommercial thinning is mechanically removing trees to reduce stocking and concentrate growth on the remaining trees, and not resulting in immediate financial return. (Dictionary of Forestry)

[31] *Red squirrel habitat* – Red squirrel habitat consists of coniferous forests of seed and cone-producing age that usually contain snags and downed woody debris, generally associated with mature or older forests.

[32] *Research* – Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of Standards VEG S5 and VEG S6, research applies to studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.

[33] *Restore, restoration* – To restore is to return or re-establish ecosystems or habitats to their original structure and species composition. (Dictionary of Forestry)

[34] *Salvage harvest* – Salvage harvest is a commercial timber sale of dead, damaged or dying trees. It recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.

[35] *Shrub steppe habitat* – Shrub steppe habitat consists of dry sites with shrubs and grasslands intermingled.

[36] *Standard* – A standard is a required action in a land management plan specifying how to achieve an objective or under what circumstances to refrain from taking action. A plan must be amended to deviate from a standard.

[372] *Stand initiation structural stage* – The stand initiation stage generally develops after a stand-replacing disturbance by fire or regeneration timber harvest. A new single-story layer of shrubs, tree seedlings and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (Oliver and Larson, 1996)

[38] *Stem exclusion structural stage* – In the stem exclusion stage, trees initially grow fast and quickly occupy all of the growing space, creating a closed canopy. Because the trees are tall, little light reaches the forest floor so understory plants (including smaller trees) are shaded and grow more slowly. Species that need full sunlight usually die; shrubs and herbs may become dormant. New trees are precluded by a lack of sunlight or moisture. (Oliver and Larson, 1996)

[39] *Timber management* – Timber management consists of growing, tending, commercially harvesting and regenerating crops of trees.

[40] *Understory re-initiation structural stage* – In the understory re-initiation stage, a new age class of trees gets established after overstory trees begin to die, are removed or no longer fully occupy their growing space after tall trees abrade each other in the wind. Understory seedlings then re-grow and the trees begin to stratify into vertical layers. A low to moderately dense uneven-aged overstory develops, with some small shade-tolerant trees in the understory. (Oliver and Larson, 1996)

[41] *Vegetation management projects* – Vegetation management projects change the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire and timber harvest. For the purposes of this amendment, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

[42] *Winter snowshoe hare habitat* – Winter snowshoe hare habitat consists of places where young trees or shrubs grow dense – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so hares can browse on the bark and small twigs (Ruediger et al. 2000). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stages.

Management direction considered, but not in detail

Some public comments gave suggestions for management direction that would have created other alternatives. A number of such alternatives to management direction were considered but dismissed from detailed consideration.

The rationale for not analyzing these alternatives in detail is based primarily on the narrowly defined Purpose and Need:

> *The Purpose and Need is to incorporate management direction that conserves and promotes recovery of the Canada lynx, by reducing or eliminating adverse effects from land management activities on the amendment-area national forests and BLM lands, while preserving the overall multiple-use direction in existing plans.*

In deciding whether suggested alternatives met the Purpose and Need, the ID team (Interdisciplinary team) used information from the LCAS, BA, BO, the *Ecology & Conservation* and the Listing Decision. Suggested alternatives were then compared to the Proposed Action and the other action alternatives to see whether they represented a distinctly different approach but still met the Purpose and Need. Some people suggested that standards be dropped. These suggestions are reflected in Alternative A, the No Action alternative.

Based on this analysis, the following alternatives were not considered in detail.

1. Proposed action used in scoping

Some people were confused by parts of the scoping proposed action; others found it redundant and disorganized.

The scoping proposed action was rewritten to provide clearer management direction by organizing it better and eliminating duplication. The rewritten version is Alternative B, the Proposed Action described and evaluated in this DEIS. Since the scoping proposed action has been rewritten and since there is no difference in effects between it and Alternative B, it was dropped from further consideration.

Appendix A contains a crosswalk between the LCAS, the scoping proposed action and Alternative B, the DEIS Proposed Action.

2. Include a standard to limit type conversions

Forest management can result in changing the dominant vegetation from one species to another, called a "type conversion." Silvicultural prescriptions can be designed, for instance, to change the species composition from lodgepole pine to western larch, which would reduce winter snowshoe hare habitat. Some people said a standard should be considered to limit type conversions to tree species that are of less value to lynx.

On page 34, the BO discusses habitat conversions and identifies the conservation measures in the LCAS that relate to this concern. Alternative B, the Proposed Action, includes measures that

promote management toward historic conditions and restricts moving away from them.

The ID team reviewed the measures in Alternative B and decided another standard that restricts type conversions was not necessary because:

- Alternative B includes objectives that describe the desired condition of lynx habitat
- Vegetative management projects should be designed to meet or move toward meeting the objectives
- Such language was not included in the LCAS and no new information has been found.

3. Limit the size of clearcuts and other regeneration harvest units

Some people wanted an alternative to limit the size of clearcuts to 40 acres. They wanted regeneration timber harvest limited to irregularly shaped cutting units no more than 300 feet wide. They wanted a standard that would make sure lynx travel corridors would be wider than 330 feet and that cutting units would be designed to preserve travel corridors, especially along ridges, saddles and riparian areas.

Standards ALL S1 and VEG S2 and Objectives VEG O1 and VEG O4 indirectly respond to concerns about unit size and travel corridors. Openings created by even-aged harvest are normally 40 acres or less. Creating larger openings requires 60-day public review and Regional Forester approval, with some exceptions (R1 Supplement FSH (Forest Service Handbook) 2400-2001-2; R2 Supplement 2400-99-2).

In 1990, Koehler speculated that openings created by regeneration harvest, where the distance-to-cover was greater than 325 feet, might restrict lynx movement and use patterns until the forest re-grows.

While it is assumed lynx would prefer to travel where there is forested cover, the literature contains many examples of lynx crossing unforested openings (Roe et al. 2000).

Lynx evolved with disturbance. In the northern Rockies, the most common disturbance is fire. The LCAS and Alternative B recognize that fact.

Fires come in many sizes. Most are small. Generally, a few, very large fires burn most of the acres. Recent burns provide herbaceous summer foods; older burns provide woody winter browse (Fox 1978).

The LCAS says landscapes with trees of various heights that support dense understory vegetation may be more likely to support high snowshoe hare populations (Poole et al. 1996). Trees in a distribution of ages may provide a greater range of available browse as snow depths vary throughout the winter.

Larger openings can often more closely resemble vegetative patterns similar to natural disturbance events (e.g. fire, windthrow, and insect outbreaks) (USDI FWS, 2003). A disturbance pattern characterized by a few large blocks may be desirable if large areas of forested habitat are a management goal, or if the predation and competition that occur at the edges between vegetation types is a problem (Ruggiero et al. 2000a, p. 431).

While it's true that lynx may not use large openings initially, once they've re-grown and can provide cover, generally after ten to 30 years, such areas may be important to lynx (USDI FWS 2003, p. 40092).

Alternative B already contains direction to consider natural disturbances and maintain habitat connectivity. Based on the management direction in Alternative B and evaluating the information in the *Ecology & Conservation* and the LCAS, the ID team decided that a standard limiting the size of openings was unlikely to improve lynx conservation.

4. Drop Standard VEG S1 that allows no more than 30 percent unsuitable habitat or change the percentage

Some people said 30 percent was "one-size-fits-all" direction that doesn't take into account local conditions or natural disturbances. Others said allowing 30 percent unsuitable was no real improvement. People said the amendment should make a decision about whether 30 percent unsuitable (or any amount) was too high for lynx to recover, and whether stricter standards were needed.

Standard VEG S1 says that if more than 30 percent of an LAU is lynx habitat in unsuitable condition, vegetative management cannot make more unsuitable unless an assessment shows different historic levels there. If a broad-scale assessment is completed, the standard can be modified to take local conditions into account.

The standard tries to make sure blocks of quality lynx habitat are maintained in each LAU, to sustain a good distribution of lynx habitat at the scale of a lynx home range.

Unsuitable habitat will grow into foraging condition over time. Providing a distribution of forest ages is important, so large parts of each LAU are always winter snowshoe hare habitat.

Fire is the most common disturbance process in lynx habitat. Generally, large stand-replacing fires burn every 40-200 years and smaller low intensity fires burn in the intervals between the stand replacing fires (Fisher and Bradley 1987; Smith and Fisher 1997).

Based on this historic fire pattern, it's likely wildfires would often create more than 30 percent unsuitable habitat in an LAU in the northern Rockies.

An analysis of lynx habitat on NFS lands in northern Idaho and Montana showed that large wildfires generally burn more than 30 percent of an LAU (Hillis et al. 2003). This indicates the 30 percent standard may be too small or that the scale at which the standard is applied may be too small. Alternatives C, D and E address this issue by changing the scale of analysis.

5. Drop the ten percent denning standard or increase it

Some people said there was no basis for retaining ten percent denning habitat – they wanted the standard dropped altogether. Others wanted more denning habitat required.

Standard VEG S3 requires retaining ten percent denning habitat and deferring actions that change vegetation if there's less than ten percent.

Woody debris – piles of wind-thrown trees, root wads or large down trees – provides lynx denning sites. Large woody debris gives kittens an escape route from predators, as well as cover from the elements. During the first few months of life, when kittens are left alone while the mother hunts, denning habitat must be available throughout the home range (Bailey 1974). It's necessary for lynx survival.

Preliminary results of habitat research currently underway in Montana indicate denning sites can be found in both mature and younger forests that have dead and down trees, and that jack-strawed smaller logs are sometimes used as den sites (Squires pers. com). The integral component for all lynx den sites appears to be the amount of down, woody debris present, not the age of the forest stand (Mowat et al. 2000).

Retaining ten percent denning is based on a model to maintain lynx habitat over time (Brittel et al. 1989). The model recommended a balance of conditions – 30 percent forage, 30 percent unsuitable that will grow into forage, 30 percent travel and ten percent denning.

The BA and BO both said denning is not likely a limiting factor for lynx in the northern Rockies because most existing plans already include provisions to retain down woody debris and old growth. In fact, the BA said existing plans that require retaining well-distributed old growth would meet denning habitat needs (Hickenbottom et al. 1999, p. 147).

Some existing plans were found lacking – either they didn't require retaining old growth or they didn't require it to be well distributed (Hickenbottom et al. 1999, p. 69). Therefore, the ID team decided it was reasonable to include some direction in the amendment.

The ID team decided a standard requiring a different amount of denning habitat was not needed because scientific information has not shown more should be provided, and because it's not likely limiting anyway since it's found in wide variety of forest conditions.

6. Prohibit harvest in old growth or mature timber

Some people asked for an alternative to prohibit harvest in old growth or mature timber to protect denning habitat. Some people said that all old growth should be protected by the amendment because some administrative units don't meet old growth standards.

Standard VEG S3 says management actions that change vegetation should be deferred if there's less than ten percent denning habitat. Standard VEG S4 and Guideline VEG G2 also provide direction about denning habitat.

As previously noted, denning habitat is found in a variety of stand conditions and stand ages, not just old growth and mature timber. The BA and BO both said denning habitat is likely not a limiting factor for lynx in the northern Rockies (Hickenbottom et al. 1999, p.69; USDI FWS 2000a, p. 31-32), because most existing plans – except the Ashley, Bighorn and Deerlodge NFs – contain provisions deemed adequate to retain dead and down woody material or old growth.

Part of the Purpose and Need is to preserve the overall multiple-use direction in existing plans. Prohibiting the harvest of mature timber would substantially change that direction and not meet the Purpose and Need.

The ID team did not evaluate this alternative in detail because

- Alternative B defers actions where there's less than ten percent denning;
- Denning habitat is found in a variety of habitat conditions;
- Denning habitat does not appear to be a limiting factor; and
- Prohibiting timber harvest would not meet the Purpose and Need.

7. Drop the exemptions in Standard VEG S4 that allow salvage logging

Some people said allowing salvage logging in disturbed areas smaller than five acres lacked a scientific basis and that all salvage harvest should be deferred.

Standard VEG S4 says salvage harvest would be okay in disturbed areas smaller than five acres if they were:

- Developed recreation or administrative sites, or authorized special use improvements;
- Designated roads and trails where public safety or access has or may be compromised; or
- In LAUs where there's at least ten percent denning habitat that's been mapped and field validated.

This standard would retain small patches of dead and dying trees for denning sites. Removing small areas of dead and dying trees would be allowed if they were safety hazards or fuel buildups in and near developed areas. Salvage logging would also be allowed if ten percent denning already exists.

Denning habitat is not likely a limiting factor in the amendment area (Hickenbottom et al. 1999, p. 69; USDI FWS 2000a, p. 31-32).

The ID team retained the allowances since denning habitat is not likely limiting and because the agencies have a responsibility to make sure developed areas, roads and trails are safe from hazards.

8. Add standards and guidelines to direct when and where wildland fire should be allowed to burn

The BA found suppressing wildfire might limit its role in creating winter snowshoe hare habitat, thus contributing to the risk of adverse effects on lynx (Hickenbottom et al. 1999, p. 69-70). Some people said none of the standards addressed fire suppression. They said the analysis should recognize the vital role of natural fire, which should be allowed to burn when it occurs.

Alternative B encourages using fire where winter snowshoe hare habitat is limited. Objective VEG O3 says to conduct fire use activities to restore ecological processes and maintain or improve lynx habitat. Guideline VEG G1 says vegetation management near denning habitat should be planned to recruit and maintain winter snowshoe hare habitat where it's scarce, unavailable or declining.

Where fire suppression does occur in lynx habitat, it can reduce the quality of habitat by reducing the amount of young forests or by changing species composition and

structure of forests. (Ruediger et al. 2000, p. 2-6, USDA FWS 2003, p. 40094).

Many existing plans allow using wildland fire in *non-developmental allocations* – places where natural disturbance processes predominate, such as wilderness and roadless areas (Hickenbottom et al. 1999, p. 67). Most direct aggressive fire suppression in *developmental land allocations*, places where campgrounds and active management like timber sales are allowed (Hickenbottom et al. 1999, p. 69).

Changing plans to allow natural fires would require evaluating each area to see where, when and under what conditions natural fires should be allowed. This would expand the scope of the Purpose and Need, Proposed Action and alternatives.

The ID team decided that the decision about where to let natural fires burn would be best evaluated at the local level, so local conditions could be considered. The existing alternatives encourage using natural fire, but leaves the decision about when and where to the responsible local officials.

9. Prohibit grazing on federal lands, add more standards about grazing or drop them

Some people asked for an alternative that prohibits grazing in lynx habitat or one that incorporates stronger standards to reduce grazing impacts on hare forage and cover. Others said there's no evidence livestock grazing has a detrimental effect on hare forage or lynx.

Alternative B addresses the LCAS grazing risk factors in Standards GRAZ S1 through GRAZ S4. They provide management direction for livestock grazing that would retain winter snowshoe hare habitat, including aspen, willow, riparian areas and shrub-steppe. The Listing Decision did not identify grazing as a concern. The FWS Remand Notice found no information that grazing poses a threat to lynx (USDI FWS 2003, p 40083).

Since the LCAS risk factors were addressed in Alternative B, the ID team decided an alternative that prohibited grazing was not necessary. Prohibiting grazing also would not meet the Purpose and Need of maintaining the overall multiple-use direction in existing plans.

On pages 2-13 to 2-14, the LCAS discussed the potential effects of livestock grazing, noting that no studies had been done about dietary overlap between livestock and snowshoe hare or about the response of snowshoe hare to livestock grazing. The LCAS evaluated studies done on other species and the effects of grazing, and suggested livestock grazing may also affect lynx habitat.

After the ID team reviewed the literature, it found enough information to warrant some level of grazing direction. In Alternative E, the grazing standards are changed to less-restrictive guidelines because the FWS Remand Notice found no information that grazing poses a threat to lynx.

The ID team did not develop an alternative to drop grazing direction entirely because information indicates grazing may have local effects, although it may not affect the population as a whole. Alternative A does not include either

standards or guidelines for grazing to benefit lynx.

10. Remove all over-the-snow standards, let over-the-snow use increase, or further restrict or prohibit it

Some people said standards related to over-the-snow use should be removed. They said there's no evidence to show that coyotes and other predators use packed snow trails to compete with lynx for prey, and that amount of compaction created by snowmobiles is insignificant compared to the compaction created naturally by the weather. They were particularly concerned that if such language was introduced into plans, it could be difficult to change, incrementally restricting the places where snowmobiling is allowed.

Others wanted an allowance made to increase use.

Still others asked that no dispersed over-the-snow use be allowed off groomed or designated trails and areas, saying no net increase in groomed or designated routes didn't go far enough.

Alternative B contains Objectives HU O1 and HU O3 that discourage expanding snow-compacting human activities, and Standard HU S1 that would allow existing over-the-snow areas to continue but not grow. Alternative B would not change the travel maps that manage winter recreation by indicating which areas are open – areas open to over-the-snow travel would remain open. Alternative B also would allow existing special use permits and agreements to continue. It would not allow increases in the miles of designated over-the-snow routes in an LAU unless the increases serve to consolidate use and improve lynx habitat.

Snow conditions vary, both seasonally and from year to year. Periods of warm and windy weather, alternating with freezes, may result in hardened snow. How long crusted snow lasts depends on location, aspect, slope, and snowfall and temperature changes. Storms producing heavy snowfall are typical and frequent in the northern Rockies. Compacted snow may exist continuously only in places where repeated snow-compacting activities occur throughout the winter.

Lynx have very large feet in relation to their body mass, providing them a competitive advantage over other carnivores in deep snow. Various reports and observations have documented coyotes using high elevation, deep snow areas (Buskirk et al. 2000a). Coyotes use open areas because the snow is more compacted there, according to research conducted in central Alberta (Todd et al. 1981). In another study in Alberta, coyotes selected hard or shallow snow more often than lynx did (Murray et al. 1994). Related research is currently underway in northwestern Montana, northern Utah and north-central Washington – see Appendix F.

The Listing Decision stated that

> *… the variability of snow conditions and frequency of fresh snows in the winter habitats that support lynx, continually reduce or alter the availability of snow trails and shallow snow depths used by coyotes in lynx habitat, making it more difficult for*

coyotes to effectively hunt in these areas regularly during the winter.

The Biological Opinion stated that

Additional information needs on the interrelationships between lynx and other carnivores during deep snow periods, and the influence of compacted snow routes on interspecific competition are identified in the LCAS. While dietary overlap suggests the possibility of competition between coyotes and lynx (Staples 1995, O'Donoghue et al. 1998b), there are no data available that demonstrate that coyote competition is currently negatively affecting lynx populations. The LCAS would limit the expansion of winter dispersed recreation activities in lynx habitat until more conclusive information is available.

The FWS Remand Notice states,

Despite the lack of evidence that competition with any species is negatively affecting lynx, the final rule expanded the theory that ski and snowmobile trails and roads that are maintained for winter recreation and forest management create packed snow corridors that give other species, particularly coyotes, access to lynx winter habitat on all land ownerships. This theory has neither been proven or disproven at this time (Roe et al. 2001)…Because no evidence has been provided that packed snowtrails facilitate competition to a level that negatively affects lynx, we do not consider packed snowtrails to be a threat to lynx at this time.

An alternative to drop all direction limiting snow compaction was not developed in detail because there is evidence competing predators use packed trails, suggesting a potential effect on individual lynx. The ID team decided it was prudent to maintain the status quo and not let over-the-snow routes expand until more information becomes available, because it's possible that over time, unregulated expansion could impair future conservation efforts. However, the ID team also decided it was reasonable to change the direction from a standard to a less-restrictive guideline in one alternative, Alternative E.

There's also no basis to establish any particular threshold of allowable increases. However, alternative language has been developed that would allow expanding winter recreation in some places where heavy public use existed in 1998, 1999 or 2000. Such increases are addressed in Alternatives C, D and E.

An alternative to prohibit all snow-compacting activities or to limit dispersed use was evaluated, but not considered in detail because it's unknown whether competition negatively affects lynx populations (USDI FWS 2000a; USDI FWS 2000b, UDDI FWS 2003). Such an alternative would not meet the Purpose and Need to retain the multiple-use direction in existing plans. When research can provide more answers, this information can be addressed as plans are amended or revised in the future.

11. Include winter-logging road restrictions in the over-the-snow standard

Some people said winter logging has negatively affected lynx so it should be limited.

They said the alternatives should provide the flexibility to rule out winter logging in sensitive lynx habitat.

Alternative B doesn't specifically address winter logging. Winter logging is often used to reduce effects on soils or to other species like grizzly bears. Timber sale contracts identify which roads may be used for access.

Winter logging could affect lynx by providing access to competitors using plowed roads. Generally, such access takes place for just one or two seasons on a given route. Snowmobile use tends to be more consistent from year to year.

Effects of winter logging are even more speculative than for regularly compacted trails. The ID team decided that designing access to timber sales could take lynx needs into account and minimize effects, so there was no need to ban or otherwise specifically address winter logging.

12. Remove ski areas or don't let them expand

The lynx amendment would allow ski areas, an existing threat to lynx, to continue to exist. Some people said ski areas should be removed or at least prevented from expanding.

Alternative B includes management direction about ski area development, expansion and operations to provide for lynx movement, security and habitat needs in Objectives ALL O1, HU O2 and HU O4, Standards ALL S1 and HU S2 and Guidelines HU G1, HU G2 and HU G3.

The LCAS identified risk factors associated with ski areas, including *short-term effects* on denning, foraging and diurnal security habitat and *long-term effects* on movement in and between home ranges (Ruediger et al. 2000, p. 2-10). Ski areas may eliminate habitat and pose a threat to movements; most were constructed before lynx became a conservation issue (Hickenbottom et al. 1999, p. 70). Mitigation measures can be developed at the project level to lessen the effects of existing developments.

After consultation, the FWS concluded that some ski areas were not likely to adversely affect lynx while others may have adverse effects (USDA FS, USDI BLM 2000a). Nevertheless, the FWS concluded ski areas would not jeopardize the continued existence of lynx.

No further information has been provided to show Alternative B is insufficient to conserve lynx. Removing existing ski areas clearly would be contrary to existing plan direction. Any changes to individual sites should be evaluated site specifically.

Therefore, the ID team decided an alternative to remove existing ski areas or prevent them from expanding does not warrant detailed study. Alternative B does include direction on how new ski areas or expansions should consider lynx needs.

13. Ban road construction, provide more road-building restrictions, turn road-related guidelines into standards or drop the road-related guidelines

Some people said more restrictions on roads were needed to conserve lynx. They wanted new road construction halted, road densities identified and existing roads closed or eliminated, or they wanted the roads

guidelines turned into standards, which are more restrictive.

Other people said there should be no road-related standards or guidelines, saying no evidence exists that roads harm lynx. Some people said Guideline HU G9 should be deleted because there are no compelling reasons to close roads.

Alternative B contains management direction that would minimize snow compaction in new places in lynx habitat and provide habitat connectivity in Objectives ALL O1, HU O1 and HU O6, Standards HU S1, HU S3 and LINK S1, and Guidelines ALL G1, HU G4, HU G6, HU G7, HU G8 and HU G9.

Little information is available about the effects of roads and trails on lynx or its prey (Apps 2000; McKelvey et al. 2000d). Roads may reduce lynx habitat by removing forest cover. Along less-traveled roads where the vegetation provides good hare habitat, sometimes lynx use the roadbeds for travel and foraging (Koehler and Brittell 1990; Ruediger et al. 2000, p. 2-12).

Roads and trails facilitate human use during winter. Snow compaction on roads and trails may give competing carnivores winter access into lynx habitat (Buskirk et al. 2000a), a concern addressed in Standards HU S1 and HU S3.

Although many species of wildlife are disturbed when forest roads are used (Ruediger 1996), preliminary information suggests lynx do not avoid roads (Ruggiero et al. 2000a) except at high traffic volumes (Apps 2000). In denning habitat, when roads are used during summer, lynx may be affected if they move their kittens to avoid the disturbance (Ruggiero et al. 2000b; Ruediger et al. 2000, p. 2-12).

A recent analysis on the Okanogan NF in Washington showed lynx neither preferred nor avoided forest roads, and that the low road density in the study area did not appear to affect lynx habitat selection (McKelvey et al. 2000c; USDI FWS 2000a, p. 39). This analysis did not address potential indirect effects on habitat quality.

The ID team reviewed the LCAS and other literature, including the FWS Remand Notice, and found no information indicating road building should be banned or that further restrictions were needed. The standards and guidelines in Alternative B adequately address the known risks associated with roads or highways.

The ID team also evaluated whether the road-related guidelines should be made into standards. A standard amounts to a mandate unless the existing plan is amended. A guideline has to be considered, but if resource reasons can be documented, managers may depart from it.

Many internal commenters expressed concern that the roads guidelines would not let managers address watershed and safety concerns (see the Internal scoping comments in the Project Record). The ID team decided guidelines were the best way to provide direction about what should be considered for lynx. The flexibility provided by guidelines is

appropriate where the benefits to lynx are not very clear.

The ID team also evaluated whether an alternative should be developed that dropped all road-related guidelines. The available information indicates some direction is needed to make sure lynx needs are considered in road management decisions; therefore, an alternative to drop road-related direction was not considered in detail. The ID team did change the emphasis of Guideline HU G6 in Alternatives C, D and E, from prohibiting road upgrades to mitigating the effects.

14. Limit road densities

Some people asked for a standard limiting the density of roads.

The density of roads does not appear to affect lynx habitat selection. On page 2-12, the LCAS said there was no compelling evidence to suggest managing road densities was necessary to conserve lynx.

Alternative B contains Guideline HU 9, which says public use should be restricted on new roads. New roads are to be decommissioned after use if they aren't needed for other reasons.

The scoping proposed action included a guideline to prioritize reducing road densities in lynx habitat. This guideline was dropped from the DEIS Proposed Action, Alternative B, because in 2000, the Roads Analysis policy was adopted at 36 CFR 212.5(2). This new federal regulation says all FS road systems must be evaluated based on their environmental effects to see whether they should be kept or decommissioned. Therefore, the guideline is no longer needed.

The ID team decided not to consider a road density standard in detail because there's no compelling evidence it's needed. Guideline HU G9 provides direction on new roads, and the Roads Policy requires reviewing existing roads.

15. Prohibit logging in lynx travel corridors

Some people said logging should not be allowed in lynx travel corridors.

Studies of lynx and snowshoe hare have documented lynx presence and reproduction and snowshoe hare abundance in a variety of managed landscapes (USDI FWS 2003). While it is assumed lynx would prefer to travel where there is forested cover, the literature contains many examples of lynx crossing large, unforested openings (Roe et al. 2000).

In the northern Rockies, lynx habitat occurs at higher elevations and, therefore is naturally fragmented by topography into island-like patches (McKelvey et al. 2000b). Lynx cross intervening landscapes, made up of shrub-steppe, grassland, low-elevation forested or unforested valleys, and in some cases, desert, to reach these habitat islands (USDI FWS 2003).

Retaining vegetation to provide cover for lynx and habitat for prey is desirable. For those plans already amended by INFISH (Inland Native Fish Strategy) and PACFISH (Interim Strategy for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California), management direction exists to retain riparian habitat and provide for

connectivity (Hickenbottom et al. 1999, p.71).

Logging units can be designed to provide cover or movement corridors between blocks of lynx habitat. Alternative B and the other action alternatives include Standard ALL S1, which requires logging to maintain habitat connectivity.

The ID team evaluated this concern and determined that Alternative B already included a standard to maintain habitat connectivity. No compelling evidence has been presented to show logging in travel corridors effects lynx, so an alternative prohibiting it is not warranted.

16. Establish only objectives for lynx management, not standards

Some people would like all the proposed management direction to be objectives. They said standards should not be established because there's so little information about lynx.

Alternative B contains one goal and several objectives, standards and guidelines for lynx management. Objectives describe desired resource conditions. Standards are required management actions that tell resource managers how to achieve the objectives; standards can include requirements to refrain from taking action in some situations.

Lynx was listed by the FWS as a threatened species because of the lack of management direction in existing plans. The BA found existing plans were likely to adversely affect lynx because of the lack of management direction.

Adding more objectives would not answer this need because objectives only describe desired conditions. Standards provide greater assurance that the desired conditions will be met; they are better regulatory mechanisms. Standards describe what the limits are for activities and the sideboards for management.

The ID team evaluated this comment, and decided that establishing only objectives would not meet the Purpose and Need. Much of the reason the amendment is needed is that existing plans fail to reduce or eliminate the adverse effects of land management activities.

17. Apply lynx conservation measures to areas that have not been mapped as lynx habitat or apply them only to occupied lynx habitat

Some people wanted the proposed management direction to be applied to areas that have not identified as lynx habitat. Others asked that the direction apply only to occupied habitat, in places where the presence of lynx has been proven.

Alternative B would apply management direction to lynx habitat identified at the time a project is proposed – see Chapter 1.

The criteria for identifying lynx habitat were developed in the LCAS (pp. 4-8 to 4-11) based on snow conditions, vegetation types and the verified historical distribution of lynx as described in the *Ecology & Conservation* – see Appendix B.

To be considered lynx habitat, an area must be able to support the type and arrangement of vegetation that sustains enough snowshoe hares, and experience the deep snow winters where lynx have a

competitive advantage (USDI FWS 2003). Landscapes with these characteristics are considered capable of providing habitat components adequate for lynx to persist over time.

While lynx sometimes may occur in areas outside of lynx habitat, it's unlikely that those areas provide what lynx need to persist over time. No scientific basis has been offered for applying lynx conservation measures to habitats other than those described in the LCAS. There is no basis to conclude that applying the measures to other habitats would provide any additional benefits to lynx. Consequently, no alternatives have been developed to expand where amendment direction would be applied.

During project analysis, maps of lynx habitat will be reviewed and updated based on local information. In addition, ESA requires that adverse effects on lynx must be addressed whenever projects may affect them. Future plan amendments or revisions may also consider lynx and information about local lynx presence as appropriate. However, at this time and at the broad scale of this amendment, there's no basis for directing the conservation measures to apply to anything but the lynx habitat identified using the existing criteria.

The ID team also considered whether the management direction should apply only to occupied lynx habitat. The team considered that lynx are a wide-ranging animal, which may or may not occupy habitat at any given time. Therefore, the team decided the management direction should apply to all habitats that could support them. The team also considered that the conservation and recovery of lynx requires them to be able to survive in places where they are not currently found.

18. Develop stipulations for oil & gas, coal and geothermal leases

Some people said lease stipulations identifying constraints on developing oil & gas, coal or geothermal resources should be one of the decisions made as a part of this amendment.

The scoping proposed action contained a guideline that said stipulations should be developed at the leasing stage to limit the timing of activities and surface use and occupancy for actions proposed in lynx habitat. Alternative B, the Proposed Action, does not include similar language.

The main effects of leases and mines on lynx are probably related to the potential for plowed roads to provide access for lynx competitors, particularly coyotes (Ruediger et al. 2000). In the amendment area, about eight wells are predicted to be developed over the next ten years – see the *Minerals* section in Chapter 3.

To address the risk of providing access to competitors, Alternative B contains direction restricting mineral access to specific routes, encouraging remote monitoring and developing reclamation plans, and managing public access in Standard HU S3 and Guidelines HU G4, HU G5 and HU G9. This direction applies to areas already leased.

When an energy-related project is proposed on lands open for leasing, the lessee must obtain approval from the BLM and FS for any activities, even though the lessee has legal rights to develop. All

leases include a standard term that says before any disturbance may take place, surveys or studies may be needed to find the extent of impacts to threatened and endangered species and whether site-specific mitigation will be needed. Standard lease terms say drilling operations can be moved either in place – up to 200 meters – or in time – up to 60 days (43 CFR 3101.1-2).

An ID team would review the existing lease terms and the existing plan, as amended, to find if any further site-specific resource protection measures should be applied as conditions of approval for the surface-use plan of operations. The management direction in Alternative B would be applied as conditions of approval, where appropriate, for new drilling permits.

The lynx ID team decided no further lease stipulations were needed to provide for the conservation and recovery of lynx. The standard terms allow timing and location adjustments to be made where needed and Alternative B addresses the risk of providing access to competitors. Mineral activities are not widespread, are subject to laws and regulations and are not considered a threat to lynx populations as a whole (USDI FWS 2000a, USDI FWS 2003). Their effects are appropriately evaluated and mitigated at the project level. Therefore, the language in the scoping proposed action was dropped, and an alternative to specifically include lease stipulations was not considered in detail.

19. Move lynx into unoccupied habitat

Some people said the amendment should propose transplanting lynx into unoccupied habitat.

Transplanting is outside the scope of the Purpose and Need to manage habitat to conserve lynx; therefore, this comment was not considered in further detail.

20. Restrict hare hunting

Some people said the amendment should restricting hare hunting.

The states regulate hunting. Regulating hunting is outside the authority of the FS and BLM, which are both federal land management agencies. Therefore, the ID team did not consider this comment in further detail.

21. Include all the recommendations in the LCAS

People said some requirements in the LCAS were missing from the scoping proposed action.

The ID team reformatted the LCAS to match the format of land use plans. Some conservation measures were not included because they were instructions about how to map lynx habitat, descriptions of an analysis process or were already required in existing direction. Appendix A is a crosswalk between the LCAS, the scoping proposed action and Alternative B, the DEIS Proposed Action, showing what conservation measures ended up in Alternative B and what happened to measures not included.

Resource topics

People were concerned about the effects of Alternative B on:

- Other wildlife
- Range management
- Recreation
- Developing and exploring for minerals
- Economic well-being
- Social concerns
- Multiple use
- Consistency with other plans

The effects on these resource topics are addressed in Chapter 3, but did not lead to developing other alternatives.

Other concerns

People asked other questions that were not about the effects of the management direction in Alternative B.

Why was lynx listed as a threatened species?

The Listing Decision is not the responsibility of the FS or the BLM. FWS is the agency responsible for listing decisions, which are made based on several criteria included in the ESA. On March 24, 2000, the FWS decided lynx should be listed as a threatened species because of the lack of guidance to conserve lynx in existing National Forest Land and Resource Plans and BLM Land Use Plans (USDI FWS 2000b).

Once a species is listed under ESA, federal land management agencies like FS and BLM are responsible to make sure their actions are not likely to jeopardize the continued existence of that species, or to result in destroying or unfavorably changing its habitat. They are required to conserve the species, to take steps to eliminate or reduce the risk factors that led to the species being listed.

What is the scientific basis for the Proposed Action?

The Proposed Action, Alternative B, is based on the conservation recommendations identified in the LCAS. A team of biologists from FS, BLM, FWS and the National Park Service developed the LCAS. They evaluated the scientific information available about lynx and its prey and the habitat needs of both.

In the LCAS, literature was cited to support management recommendations. For many issues, little information existed. In these cases, assumptions or inferences were made based on the collective experience and professional judgment of the team members in consultation with other lynx experts. The rationale was documented in these situations.

Most lynx research has been conducted in Alaska and Canada, with few studies completed in the contiguous United States, which contains the southern portion of lynx range. Most research has focused on demographics and ecology, with little emphasis on management except for regulating trapping quotas.

At the time the LCAS was being developed, another team of scientists was preparing an assessment of the scientific basis for lynx conservation. They published the *Ecology & Conservation* in the year 2000. Their findings were integrated into the LCAS.

Chapter 8 of the LCAS identifies what research is needed, where little is known about the effects on lynx and its prey of such human-driven actions as precommercial thinning, snow compaction, highways, forest road densities, human developments, livestock grazing, etc. Several ongoing research efforts address these topics – see Appendix F. Research is underway in southern British Columbia, Montana, Wyoming, Washington and Maine that could lead to further insights for lynx management.

The ID team reviewed the LCAS, the *Ecology & Conservation*, the BA, the BO, the Listing Decision and other information currently available.

Why isn't more being done than what was included in the Proposed Action? How do you know the Proposed Action will be enough?

Some people proposed prohibiting timber harvest in old-growth or mature stands, prohibiting grazing, further restricting or prohibiting all over-the-snow activities and removing roads in lynx habitat. These suggestions were discussed in *Management considerations dismissed*, under item numbers 6, 9, 10 and 13.

The LCAS recommendations were designed to conserve lynx, and were based on the best scientific information available. The primary source of this information, the *Ecology & Conservation*, was peer-reviewed scientific literature.

The LCAS recommendations were designed to retain future management options, a conservative approach, intended to avoid irrevocable commitments of resources that might ultimately prove to be crucial to lynx. The LCAS biology team determined that if the recommended measures were implemented, they would conserve lynx (Ruediger et al. 2000, p. 7-1).

In addition, on page 58, the BO from the FWS said,

> *The direction provided by the conservation measures would assist Federal agencies in avoiding negative impacts on lynx. Based on the best scientific and commercial information currently available, we believe that Plans that incorporate the conservation measures, and projects that implement them, are generally not expected to have adverse impacts on lynx. Implementation of the measures in the LCAS across the range of lynx is expected to lead to the conservation of the species.*

Alternative B would incorporate essentially all the recommended conservation measures in the LCAS – see Appendix A, the crosswalk between the LCAS, the scoping proposed action and Alternative B, the DEIS Proposed Action. The ID team determined the effects of Alternative B would be the same as those resulting from the LCAS. The proposed amendment would contribute to conserving lynx by adequately addressing

the deficiencies in existing plans that were the basis for listing lynx as threatened.

Except for the issue about the effects of management activities on winter snowshoe hare habitat in multistoried forests, the comments have identified no new information that suggests effects on lynx would be greater than anticipated or warrant revisiting its adequacy.

Based on the ID team's review, there's no reason to consider conservation measures beyond those recommended in the LCAS because including them would show no additional benefits for lynx. Further, most of the comments would not meet the Purpose and Need of conserving lynx while maintaining the multiple-use objectives in existing plans.

Once the proposed amendment is in place, individual plans may be amended or revised as needed to respond to local conditions. Seventeen of the 18 national forests affected by this amendment will be revising their plans in the next few years, and the BLM anticipates its out-of-date plans will be redone in the next few years.

As noted, more research is needed and is underway. If new information suggests different management direction is required to conserve and recover lynx, then plans would be reviewed. Subsequent planning, including ongoing and scheduled revisions, may address lynx needs where there's a need to respond to information on an individual administrative unit.

Why was just one amendment proposed for a four-state area?

The FS and BLM both believe that whenever practical, management direction should be developed at the local level. In this case, developing direction locally was not practical because new information affecting many plans needed to be addressed promptly and consistently. Even though the amendment covers a large area, its scope was narrowly defined.

Why was the proposal limited to 18 national forests and the BLM in Idaho and northern Utah, instead of all the administrative units in the northern Rockies geographic area? Won't this result in inconsistent management?

Eleven units in the geographic area are addressing new information about lynx in separate planning processes, which include lynx but are broader in scope – see Chapter 1.

To make sure the management direction for lynx would be as consistent as possible across the range of lynx, the ID team is coordinating with these units. Even so, it's likely planning for individual units will result in different decisions because of differing habitat conditions, historic management, the amount and kind of information available and the ways direction would be integrated with other needs in these plans.

How does the National Lynx Survey affect this amendment?

The National Lynx Survey is a systematic national study being conducted to

evaluate where lynx are distributed and to help refine how lynx habitat is defined. When the survey detects a lynx, snow-tracking surveys and sometimes radio-telemetry studies follow, since detection could mean only that an individual passed through the area.

The results of the survey will increase our knowledge about the current distribution and use of lynx habitat. The results are not expected to directly affect this amendment, which relies on information about historic lynx habitat. If the results are published before a decision is made, that information will be considered.

How does the fact that hybrid lynx were found in Minnesota affect this amendment?

In 2003, FS scientists used DNA analysis to discover the first scientific evidence of hybridization in the wild between Canada lynx and bobcats.

Because of these findings, the FS conducted a DNA analysis of most of the lynx hair samples collection under the National Lynx Survey to see if hybridization had occurred elsewhere. So far, no additional instances have been detected.

There is no evidence of hybridization in the amendment area, so this issue will not be addressed further in this amendment.

Why aren't trapping and shooting addressed in the Proposed Action?

These activities are outside the jurisdiction of the FS and BLM, which are federal land management agencies.

The states regulate trapping and shooting. Trapping for lynx is not allowed in Montana, Idaho, Wyoming, Utah or Washington. Occasionally, lynx are incidentally captured during the trapping seasons for bobcat and wolverine, mostly in Idaho, Montana and Wyoming.

Why isn't predator control addressed in the Proposed Action?

On federal lands, the USDA Wildlife Service is responsible for predator control. Predator control activities are outside the jurisdiction of the FS and BLM. There's less predator control going on than historically, it's aimed at target species and it generally takes place outside lynx habitat, in lower elevation rangelands (Ruediger et al. 2000, p. 4-12).

Since the ban on poisons such as 1080, predator control on federal lands likely has a low potential to affect lynx (Ruediger et al. 2000, p. 4-12). Predator control on private lands is not as closely controlled as that on federal lands, but generally occurs outside lynx habitat.